

APPENDIX



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Hironori Aoki

Group Art Unit: 2871

Serial Number: 10/049,792

Examiner: Thoi V. DUONG

Filed: February 14, 2002

For: ARRAY SUBSTRATE AND DISPLAY UNIT USING IT AND
PRODUCTION METHOD FOR ARRAY SUBSTRATE

DECLARATION UNDER 37 CFR 1.132

Honorable Commissioner

P.O. Box 1450

Alexandria, VA 22313-1450

Sir,

I, Hidenori Aoki, declare and say as follows.

I am the sole inventor of U.S. Patent Application No. 10/049,792 filed February 14, 2002, and entitled, Array substrate and Display Unit Using it and Production Method for Array Substrate."

I conducted the experiments described below in order to demonstrate that the instant claimed array substrate comprising: a display area in which pixel electrodes are formed, a scanning line formed of partly or wholly nitridated aluminum or partly or wholly nitridated aluminum alloy, said scanning line being arranged

between the pixel electrodes, a signal line formed of a high melting point metal selected from the group consisting of chrome, molybdenum, tantalum and alloys thereof, said signal line crossing over the scanning line interposing an insulating layer therebetween, a terminal to which a scanning signal is applied, and an extended scanning line for connecting the scanning line with the terminal, said extended scanning line being formed only of the same conductive film as for said signal line capable of reducing the contact resistance between the auxiliary capacitance line and the collected auxiliary capacitance line to the level of several tens ohm, while the conventional array substrates are difficult to reduce the contact resistance between the auxiliary capacitance line and the collected auxiliary capacitance line to the level of several tens ohm.

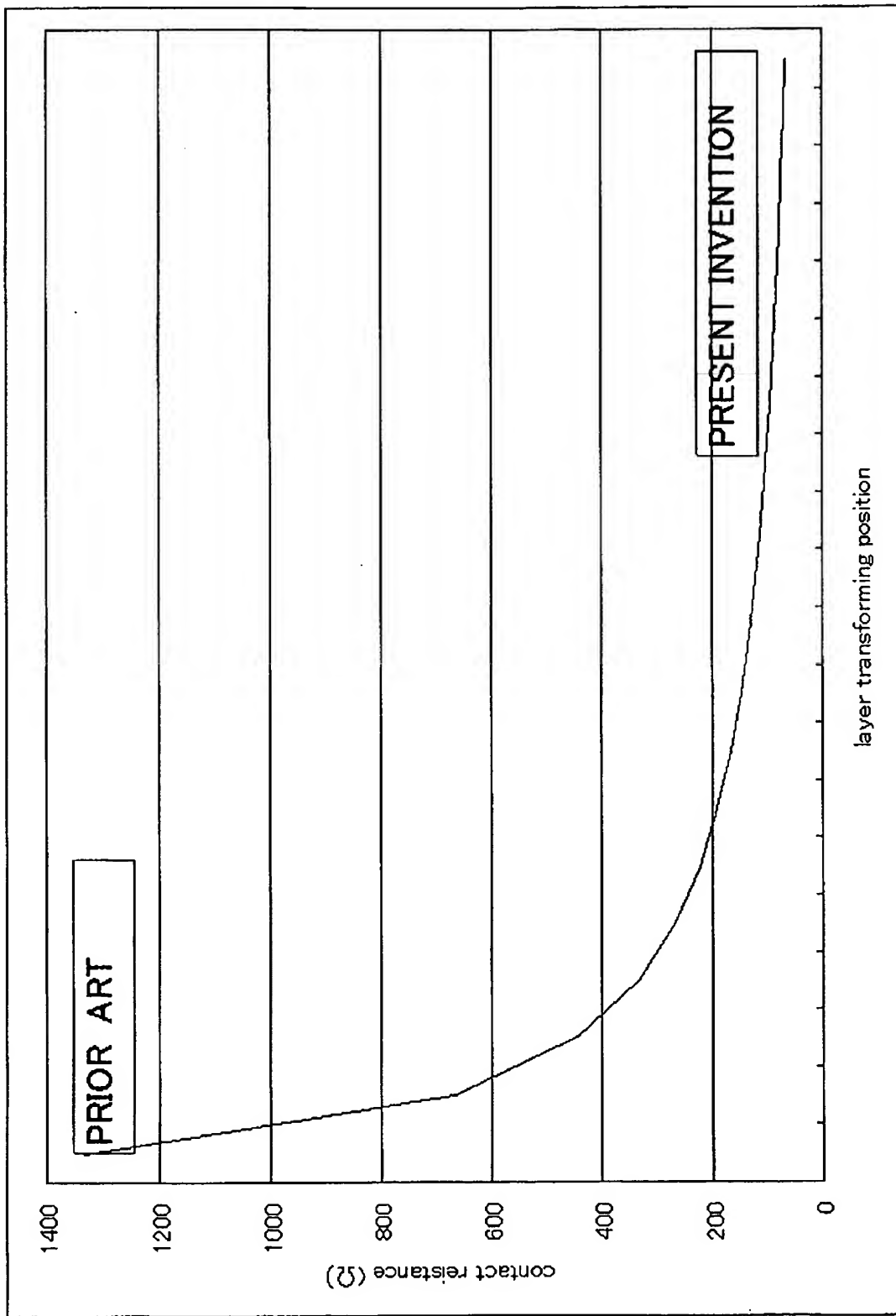
EXPERIMENTAL

Under the condition where a width of the terminal is 60 μm , a pitch of the pixel is 300 μm , and area of transforming part is 1mm^2 , contact resistance was calculated.

As a result, the following curve was obtained. Please note in the following curve that the vertical axis shows the contact resistance, whereas the horizontal axis shows the region where the contact can be established.

In the prior art where transforming is attained only at the terminal, the region in the horizontal axis was narrow.

On the other hand, in the claimed invention where transforming is attained in the neighborhood of the displaying part, the region in the horizontal axis became wide. As a result, I found the contact resistance between the auxiliary capacitance line and the collected auxiliary capacitance line reduced to the level of several tens ohm.





Attorney Docket No.: 542-007.002
Serial No.: 10/049,792

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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| Hironori AOKI Full name of declarant | |
| <u>Hironori Aoki</u> Declarant's Signature | <u>June 28, 2008</u> Date |
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